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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/673,226	10/13/2000	Thomas Wagner	MO-5936/WW-5	3599

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EXAMINER	
WHITE, EVERETT NMN	
ART UNIT	PAPER NUMBER
1623	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/673,226	WAGNER ET AL.	
	Examiner	Art Unit	
	Everett White	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *Jan. 29, 2001*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5, 6 and 8-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claims 5 and 8, the metes and bounds of phrase "compounds acting as bases" cannot be determined, which rendered the claims indefinite. Exactly, in what way are the compounds acting as bases? Do the compounds have similar chemical reactions as bases, similar color as bases, similar structures as bases, or some other similar characteristic?

Regarding Claim 5, a broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, Claim 5 recites the broad recitation "dissolution ... carried out in the presence of compounds acting as bases", and the claim also recites "particularly in the presence of tertiary amines and/or alkaline hydroxide" which is the narrower statement of the range/limitation.

Also see Claim 8 wherein the broad recitation is "solvent...contains compounds acting as bases", and the claim also recites "particularly tertiary amines and/or alkaline hydroxides and/or quaternary ammonium bases" which is the narrower statement of the limitation, which renders the claim indefinite.

Also see Claim 6 wherein broad recitations are followed by the term "especially" at lines 2 and 3 of Claim 6; and a broad recitation followed by the term "preferably" at line 2 of Claim 6, which renders Claim 6 indefinite.

Regarding Claims 9 and 10, in the absence of the specific derivatizations to the chemical core claimed (cellulose) or distinct language to describe the structural modifications or the chemical name of the cellulose derivative of this invention, the identity of said derivative would be difficult to describe and the metes and bounds of said derivative that Applicants regard as the invention cannot be sufficiently determined because they have not been particularly pointed out or distinctly articulated in the claims.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 5-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Fink et al (DE 19600572 A1).

Applicants claim a process for activation of cellulose comprising the following steps: (a) dissolution of cellulose in a water-containing, tertiary aminoxide, (b) coagulation of the dissolved cellulose by the addition of an appropriate precipitating agent and (c) optional alkalization of the amorphous cellulose obtained from step (b). Additional limitations in the dependent claims include the process wherein aminoxides

selected from the group N-methyl morpholine-N-oxide (NMMNO), N-methyl-piperidine-N-oxide, N-methyl-pyrrolidine-N-oxide, N,N-dimethylcyclohexylamine-N-oxide, dimethyl-ethanolamine-N-oxide and triethylamine-N-oxide, and water or mixtures of water and dipolar-aprotic compounds are used as the water-containing tertiary aminoxide; the process wherein the dissolution of the cellulose in step(a) is carried out in the presence of compounds acting as bases, particularly in the presence of tertiary amines and/or alkaline hydroxides; the process wherein ethers, especially dimethyl ether, ketones, especially acetone, alcohols preferably with 1-6 carbon atoms per molecule, especially methanol, ethanol, 2-propanol or 2-methyl-2-propanol, acetonitrile and mixtures of these compounds are used as the organic precipitating agent in step (b); the process wherein the addition of the precipitating agent in step (b) is carried out stepwise; the process wherein the solvent in step (b) contains compounds acting as bases, particularly tertiary amines and/or alkaline hydroxides and/or quaternary ammonium bases. Applicants further claim a process for derivatization of cellulose include a step (d) wherein derivatization of the amorphous cellulose obtained in step (b) and of c), optionally in the presence of an appropriate solvent.

The Fink et al publication discloses production of flexible cellulose fibers which comprises spinning cellulose solutions through spinnerets through an air gap into an aqueous and/or alcoholic coagulation bath containing amine oxide and subjecting the cellulose to an after-treatment bath, wherein the after-treatment bath is preferably alkaline and consists of a mixture of ethanol and aqueous sodium hydroxide (NaOH) solution (see Derwent Abstract). The abstract discloses that the amine oxide may be N-methylmorpholine N-oxide, which anticipate the tertiary aminoxide of instant Claims 1 and 2. The use of ethanol in the alcoholic coagulation bath anticipates the alcohols with 1-6 carbon atoms of instant Claim 6. Compounds acting as bases (which is vague) recited in instant Claims 5 and 8 may or may not be part of the alcoholic coagulation bath of the Fink et al publication. The Fink et al publication further discloses production of flexible cellulose fibres from cellulose solutions, which can be characterized as derivatized cellulose, which anticipate the subject matter of instant Claims 9 and 10.

5. Claims 1-4 and 9 are rejected under 35 U.S.C. 102(a) as being anticipated by Yamada et al (US Patent No. 5,540,874).

Applicants claim a process for activation of cellulose comprising the following steps: (a) dissolution of cellulose in a water-containing, tertiary aminoxide, (b) coagulation of the dissolved cellulose by the addition of an appropriate precipitating agent and (c) optional alkalization of the amorphous cellulose obtained from step (b). Additional limitations in the dependent claims include the process wherein aminoxides selected from the group N-methyl morpholine-N-oxide (NMMNO), N-methyl-piperidine-N-oxide, N-methyl-pyrrolidine-N-oxide, N,N-dimethylcyclohexylamine-N-oxide, dimethyl-ethanolamine-N-oxide and triethylamine-N-oxide, and water or mixtures of water and dipolar-aprotic compounds are used as the water-containing tertiary aminoxide; the process wherein the dissolution of the cellulose in step (a) is carried out with at least one stabilizer; the process, wherein the dissolution of the cellulose in the water-containing tertiary aminoxide in step a) is carried out in the presence of a dipolar-aprotic compound.

The Yamada et al patent discloses cellulose solution that comprises cellulose composition and a mixed solvent comprising N-methylmorpholine-N-oxide and another solvent material, which is compatible with N-methylmorpholine-N-oxide (see column 3, line 65 to column 4, line 1). See column 4, 3rd paragraph, wherein the other solvent material may be another tertiary amine oxide, which may be selected as N-methylpyrrolidone oxide, which anticipate the dipolar-aprotic compound disclosed in instant Claims 2 and 4. Yamada et al also discloses non-solvents that can be used with cellulose, which include dimethyl sulfoxide (see page 4, line 25). See page 4, 3rd paragraph of the instant specification wherein N-methyl pyrrolidone and dimethyl sulfoxide are listed as examples dipolar-aprotic compounds. The Yamada et al patent further discloses that the mixed solvent may contain a stabilizer, wherein the stabilizer may be propyl gallate, which anticipate the stabilizer of instant Claim 3. See column 5, lines 13-20, wherein the cellulose solution thereof is extruded through a film-forming slit or a spinning nozzle having at least one filament-forming orifice; the resultant shaped cellulose solution stream being brought into contact with a coagulating liquid to solidify

the cellulose solution stream; and then the solidified article is taken up from the coagulation liquid. This description of the Yamada et al patent anticipate the instantly claimed process for activation of cellulose and process for derivatization of cellulose.

6. Claim 10 is rejected under 35 U.S.C. 102(a) as being anticipated by Yamada et al (US Patent No. 5,540,874).

Applicant claim a cellulose derivative, produced in accordance with a process.

The Yamada et al patent discloses various cellulose derivatives (see column 3, lines 28-34), which anticipate the broadly claimed cellulose derivative of instant Claim 10. It was noted that the cellulose derivative is in the form of a product-by-process claim. The office considers product-by-process claims as products. Applicants are reminded that process limitations cannot impart patentability to a product that is not patentably distinguished over the prior art. *In re Thorpe et al.* (CAFC 1985), supra; *In re Dike* (CCPA 1968) 394 F2d 584, 157 USPQ 581; *Tri-Wall Containers, Inc.* v. *United States et al.* (Ct Cls 1969) 408 F2d 748, 161 USPQ 116; *In re Brown et al.* (CCPA 1972) 450 F2d 531, 173 USPQ 685; *Ex parte Edwards et al.* (BPAI 1986) 231 USPQ 981.

Information Disclosure Statement

7. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

8. The information disclosure statement filed January 29, 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Summary

9. All the pending claims are rejected.

Examiner's Telephone Number, Fax Number, and Other Information

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Everett White whose telephone number is 571-272-0660. The examiner can normally be reached on 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia A. Jiang can be reached on 571-272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

E. White

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12/20/06

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